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Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files, Project 2099 []

DATE: 4 November 1954

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FROM : []

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SUBJECT: Progress Report for October

1. The writer, during the month of October, visited the [] plant once, (18 October), made several phone calls to the plant, twice had direct contact with [] staff, and held one conference with interested persons of OC/O&T for the purpose of clearing up problems incident to the development of the RS-13. Those attending the OC/O&T meeting were []

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2. Paperwork incident to extending the services contract XG-1029 has been delivered to the Logistics officers. Delivery of the RS-6A units to [] as specified by the terms of the contract, which has been held up pending the receipt (by Logistics) of the MSB funds requisition, may now be expedited. Several sets of matched crystal pairs at random frequency, whose fundamental frequency is spaced 1 kc, were prepared by OC-E/T&E and delivered to the contractor for test purposes.

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3. Progress at the plant appears to be satisfactory in that advanced breadboard versions of the transmitter have been fabricated and tested. One such unit was able to deliver approximately 30 watts of RF energy into a dummy antenna using a 16L4 as a final amplifier with 600 volts on the plate. The multivibrator and oscillator tubes will be of the miniature glass envelope variety, while the final will be of the octal base type with a metal envelope. As indicated by a trip report dated 18 October, three changes of specifications were granted. The only one of the three to cause concern was the decision to use external pre-tuned plug-in coils and crystals. This presents something of a space problem, not only for storage but for transportation, and restricts somewhat the versatility of a signal plan. However, in light of the fact that [] Chief Engineer for [], had stated that band switching would mean additional development time and costs, it was with some reluctance that this specification was modified.

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4. To date, the power supply unit has not been breadboarded, although a certain amount of engineering time has been spent in investigating transformers and vibrators, as the unit is to be battery powered only.

5. Design of the keyer unit is on par with the power supply, as no actual construction work has started. The writer has requested of the [] case officer a sample of the graphite ink used in that equipment for chemical analysis and duplication. It is expected, and hoped, that

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the ink will arrive from [] during the current month, so that tests of locally available tape and ink will not be unduly delayed. Motor design appears to present no problem as many small D.C. motors are available which will adequately perform the required task of pulling the tape inasmuch as speed regulation is not a major factor because base station receiving methods will not require synchronous operation.

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6. Determination of base station receiving methods (reference, Memo to the Files, Project [], "Test Outline for Conducting Keying Comparison") has progressed little beyond the talking stage, although various tasks have been assigned and agreed upon. The OC-SP/AF magnetic recorder laboratory will be available for certain phases of the tests. One high-speed tape recorded from the original [] equipment (approx. 225 wpm) has been reduced in speed by the writer, who had little difficulty in reading the code even though the tone of the signal was less than 200 cycles. Keying text tapes are being punched, which will soon be recorded at 300 wpm for further tests.

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7. Planned activity for the coming month will involve spending more time at the [] plant and more frequent visits to the Lab to monitor tests there.

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